



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,215	10/15/2003	Mary G. Dowling	CISCO-8437	8067

49715 7590 10/22/2007
CISCO - THELEN REID BROWN RAYSMAN & STEINER LLP
P.O. BOX 640640
SAN JOSE, CA 95164-0640

EXAMINER

WILSON, ROBERT W

ART UNIT	PAPER NUMBER
----------	--------------

2619

MAIL DATE	DELIVERY MODE
-----------	---------------

10/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/687,215

Applicant(s)

DOWLING, MARY G.

Examiner

Robert W. Wilson

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 58-126 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 66-77, 108-120 and 122-124 is/are allowed.
- 6) ☒ Claim(s) 1, 58-65, 78-107, 121, & 125-126 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Claim Rejections - 35 USC § 112

1. Claims 65 & 107 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 65, what is meant by “presenting to a user a list of the candidate network devices qualified to join the cluster prior to said adding”? Unclear whether device is added to the list and then the list is provided to the candidate or whether the list is provided to the candidate prior to the candidate being added to the list.

Referring to claim 107, what is meant by “means for presenting a list of the candidate network devices qualified to join the cluster to a user prior to said addition”? Unclear whether device is added to the list and then the list is provided to the candidate or whether the list is provided to the candidate prior to the candidate being added to the list.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 58-65 & 78-107, 121, & 125-126 are rejected under 35 U.S.C. 102(B) as being anticipated by Backes (U.S. Patent No.: 5,018,137)

Referring to claim 1, Backes teaches: A method for discovering and configuring network devices into a cluster said method (Fig 1 performs the method) comprising:

automatically detecting candidate devices by receiving discovery packets from the candidate devices, the candidate devices periodically transmitting the discovery packets (All bridges automatically receive and detect BPDU or discovery packets from all of the bridges in the network or candidates. The bridges inherently periodically transmit the BPDU or discovery packets periodically per col. 5 line 1 to col. 9 line 62)

Art Unit: 2619

determining whether any of the candidate devices is qualified to join the cluster by applying qualification rules to the discovery packet received from the candidate devices (BPDU are evaluated from the bridges or candidate devices in order to determine which bridges will be designated as daughter bridge and which bridge will be designated as a root or designated bridge. All bridges which do not have the lowest path cost are qualified to be daughter bridges per col. 5 line 1 to col. 9 line 62)

adding one or more of the candidate devices to the cluster to be managed and configured via a commander network device of the cluster (Each of the bridges is added to the spanning tree network or cluster because they are binded or configured or managed per col. 5 line 1 to col. 9 line 62)

In addition Meier teaches:

Regarding claim 58 wherein the candidate network device transmit the discovery packet to a multicast address (The bridges inherently multicast the BPDU or multicast per col. 5 line 1 to col. 9 line 62)

Regarding claim 59, wherein the discovery packets comprise layer 2 messages (BPDU are bridge PDU or inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 60 wherein the discovery packets comprise Media Access Control (MAC) layer message (MAC col. 5 line 1 to col. 9 line 62)

Regarding claim 61, wherein the discovery packets include cluster-capability information of the candidate device transmitting the discovery packets (The BPDU contain configuration or cluster-capability information of the bridge transmitting the packet per col. 5 line 1 to col. 9 line 62)

Regarding claim 62 wherein the discovery packet includes candidate device is not an active member of another cluster (only members of the network send the BPDU consequently they cannot be members of another spanning tree or cluster per col. 5 line 1 to col. 9 line 62)

Regarding claim 63, further comprising maintaining, at each of the candidate devices a database containing information about neighbor candidate devices (Each daughter stores a forwarding list per col. 5 line 1 to col. 9 line 62)

Regarding claim 64, further comprising transmitting in response to said adding the information about the neighbor candidate information to the commander network device from each member network which just joined the cluster (Each daughter uses forwarding list to forward packets per col. 5 line 1 to col. 9 line 62)

Regarding claim 65, presenting to a user list of the candidate network devices qualified to join the cluster prior to said adding (Each bridge has a forwarding table per col. 5 line 1 to col. 9 line 62)

Art Unit: 2619

Referring to claim 78, Backes teaches: a method for discovering candidate network device to be configured into a cluster of network devices and managed via a commander network device (Fig 1 performs the method), said method comprising:

periodically transmitting discovery packets from the candidate network devices the discover packets including information indicating that the candidate device is capable of belonging to a cluster (the bridges or candidate devices periodically transmitting the BPDU or discover packets indicating configuration information associated with the bridge or capability to be a member of the spanning tree or cluster per col. 5 line 1 to col. 9 line 62)

maintaining at each candidate network device a neighbor database containing information about other candidate network devices directly connected to the candidate network device (Each bridge keeps a forwarding table associated with the neighbor bridge per col. 5 line 1 to col. 9 line 62)

transmitting the information in the neighbor device data base to the commander network device when the candidate network device is added to the cluster (message of information can be transmitted to the designated root or command by a bridge once it has been added to the spanning tree of cluster per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 79, further comprising receiving at each candidate network device the discover packets from it neighbor candidate device and updating at each candidate network device the neighbor device database in response to the received discovery packets (Each bridge updates the forwarding table based upon BPDU information per col. 5 line 1 to col. 9 line 62)

Regarding claim 80, wherein the discovery packets comprise layer 2 messages (The Bridge PDU are inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Referring to claim 81, Backes teaches: A commander network device for discovering and configuring network devices into a cluster said commander network device comprising (Fig 3 is the processor which performs at the root or commander network device) comprising:

Discovery logic automatically detecting candidate devices by receiving discovery packets from the candidate devices, the candidate devices periodically transmitting the discovery packets (The ports and processing unit per Fig or discovery logic automatically receive and detect BPDU or discovery packets from all of the bridges in the network or candidates. The bridges inherently periodically transmit the BPDU or discovery packets periodically per col. 5 line 1 to col. 9 line 62)

Qualification rule circuit circuitry to determine whether any of the candidate devices is qualified to join the cluster by applying qualification rule of the discovery packet received from the candidate device (Processing Unit per Fig 3 or qualification rule circuitry evaluates BPDUs from

Art Unit: 2619

the bridges or candidate devices in order to determine which bridges will be designated as daughter bridge and which bridge will be designated as a root or designated bridge. All bridges which do not have the lowest path cost are qualified to be daughter bridges per col. 5 line 1 to col. 9 line 62)

Cluster management logic to add one or more of the candidate devices to the cluster each of the added network devices becoming a member of the cluster to be managed and configured via the commander network device (Processing unit per Fig 3 or cluster management logic which added to the spanning tree network or cluster because bridges are binded or configured or managed per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 82, wherein the discovery packets comprise layer 2 messages (The Bridge PDU are inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 83, wherein the discovery packets comprise MAC message (The Bridge PDU are inherently layer 2 messages or MAC layer messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 84, wherein the discovery packets include cluster-capability information of the candidate device transmitting the discovery packets (The BPDU contain configuration or cluster-capability information of the bridge transmitting the packet per col. 5 line 1 to col. 9 line 62)

Regarding claim 85 wherein the discovery packet includes candidate device is not an active member of another cluster (only members of the network send the BPDU consequently they cannot be members of another spanning tree or cluster per col. 5 line 1 to col. 9 line 62)

Regarding claim 86, further comprising transmitting in response to said adding the information about the neighbor candidate information to the commander network device from each member network which just joined the cluster (Each daughter stores a forwarding list per col. 5 line 1 to col. 9 line 62)

Regarding claim 87, further comprising logic to generate list of network devices qualified to join the cluster (Each daughter stores a forwarding list in Forwarding Data Base or Logic per col. 5 line 1 to col. 9 line 62)

Referring to claim 88, Backes teaches: A commander network device for discovering and configuring network devices into a cluster said commander network device (Fig 3 is the processor which performs at the root or commander network device) comprising:

Discovery protocol logic automatically detecting first candidate network device b receiving the discovery packets from the candidate network devices directly connected to the commander network device; each of the candidate network device directly connected to the commander

Art Unit: 2619

network device each of the network device periodically transmitting discovery packets including information indicating that the candidate network device is capable of belonging to a cluster (The Port and Processing unit per Fig 3 automatically receive and detect BPDU or discovery packets from the bridges in the network or candidates directly trunked to the root. The bridges inherently periodically transmit the BPDU or discovery packets periodically which have their configuration information or capability of belonging per col. 5 line 1 to col. 9 line 62)

Qualification rule circuit circuitry to determine whether any of the candidate devices is qualified to join the cluster by applying qualification rule of the discovery packet received from the candidate device (Processing Unit per Fig 3 or qualification rule circuitry evaluates BPDUs from the bridges or candidate devices in order to determine which bridges will be designated as daughter bridge and which bridge will be designated as a root or designated bridge. All bridges which do not have the lowest path cost are qualified to be daughter bridges per col. 5 line 1 to col. 9 line 62)

Logic to generate a list of the first candidate network devices qualified to join the cluster (Processing unit per Fig 3 or logic which keeps track of forwarding table of bridges qualified to join the spanning tree per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 89, wherein the discovery packets comprise layer 2 messages (The Bridge PDU are inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 90 wherein the discovery packet includes candidate device is not an active member of another cluster (only members of the network send the BPDU consequently they cannot be members of another spanning tree or cluster per col. 5 line 1 to col. 9 line 62)

Regarding claim 91, further comprising: a database to store the information received from the candidate network device (a forwarding database per Fig 3 and per col. 5 line 1 to col. 9 line 62)

Regarding claim 93, wherein each of the candidate network devices maintains a neighbor device database containing information about other candidate network device directly connected to the candidate network device (Forwarding table per col. 5 line 1 to col. 9 line 62) ,

Wherein said discovery protocol logic is further to receiving information about neighbor candidate network device from a member network device which just joined the cluster (BPDU are forward from member that just joined and are sent to the root per col. 5 line 1 to col. 9 line 62)

Regarding claim 94, wherein said discovery protocol logic is further to automatically detect second candidate network devices connected to the member network device which just joined the cluster in response to received information about the neighbor candidate network device (The Processing unit and ports or protocol logic per Fig 3 automatically detect BPDUs from all

Art Unit: 2619

bridges including second bridge or candidate device and stores their forwarding information in the Forwarding Database per Fig 3 and per col. 5 line 1 to col. 9 line 62)

Regarding claim 95, wherein said logic to generate the list further generate a list of the first and second candidate network device qualified to join the cluster (The Processing unit and ports or protocol logic per Fig 3 automatically detect BPDUs from all bridges including second bridge or candidate device and stores their forwarding information in the Forwarding Database per Fig 3 and per col. 5 line 1 to col. 9 line 62)

Referring to claim 96, Backes teaches: A network device capable of being configured into a cluster of network device and managed via a commander network device said network device (Fig 3 is the processor which performs as daughter) comprising:

Discovery protocol logic to periodically transmit discovery packets the discovery packets in including information including the network device is capable of belonging to a cluster (The Port and Processing unit per Fig 3 automatically transmits BPDU or discovery packets to the root. The bridges inherently periodically transmit the BPDU or discovery packets periodically which have their configuration information or capability of belonging per col. 5 line 1 to col. 9 line 62)

a neighbor device data base to store information about other candidate network device directly connected to the network device, other candidate network device being capable of configured into a cluster (Forwarding Data Base per Fig 3)

Logic to transmit the information in the neighbor device data base to the commander network device when the network device is added to the cluster (Processing unit and port per Fig 3 or logic which sends configuration BPDU packets to the root or commander per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 97, wherein said discovery protocol logic further to receive the discovery packet from its neighbor candidate devices said network device further comprising logic to updating the neighbor database in response to the received discovered packets (Port, Processing Unit and Forwarding Database per Fig 3)

Regarding claim 98, wherein the discovery packets comprise layer 2 messages (The Bridge PDU are inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Referring to claim 99, Backes teaches: An apparatus for discovering and configuring network devices into a cluster (Fig 3 is the processor which performs at the root or commander network device) comprising:

Means for automatically detecting first candidate network device b receiving the discovery packets from the candidate network devices directly connected to the commander network

Art Unit: 2619

device; each of the candidate network device directly connected to the commander network device each of the network device periodically transmitting discovery packets including information indicating that the candidate network device is capable of belonging to a cluster (The Port and Processing unit per Fig 3 or means for automatically receive and detect BPDU or discovery packets from the bridges in the network or candidates directly trunked to the root. The bridges inherently periodically transmit the BPDU or discovery packets periodically which have their configuration information or capability of belonging per col. 5 line 1 to col. 9 line 62)

Means for determining whether any of the candidate devices is qualified to join the cluster by applying qualification rule of the discovery packet received from the candidate device (Processing Unit per Fig 3 or means for determining evaluates BPDUs from the bridges or candidate devices in order to determine which bridges will be designated as daughter bridge and which bridge will be designated as a root or designated bridge. All bridges which do not have the lowest path cost are qualified to be daughter bridges per col. 5 line 1 to col. 9 line 62)

Means for adding one or more candidate devices to the cluster to be managed and configured via the commander network device of the cluster (Processing unit per Fig 3 or means which keeps track of forwarding table of bridges qualified to join the spanning tree per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 100, wherein the candidate network device transmit the discovery packet to a multicast address (The bridges inherently multicast the BPDU or multicast per col. 5 line 1 to col. 9 line 62)

Regarding claim 101, wherein the discovery packets comprise layer 2 messages (The Bridge PDU are inherently layer 2 messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 102, wherein the discovery packets comprise Media Access Layer message (The Bridge PDU are inherently MAC messages per col. 5 line 1 to col. 9 line 62)

Regarding claim 103, wherein the discovery packets include cluster-capability information of the candidate device transmitting the discovery packets (The BPDU contain configuration or cluster-capability information of the bridge transmitting the packet per col. 5 line 1 to col. 9 line 62)

Regarding claim 104 wherein the discovery packet includes candidate device is not an active member of another cluster (Only members of the network send the BPDU consequently they cannot be members of another spanning tree or cluster per col. 5 line 1 to col. 9 line 62)

Regarding claim 105, means for maintaining at each candidate device a database containing information about neighbor candidate devices (Forwarding Data Base per Fig 3)

Art Unit: 2619

Regarding claim 106, further comprising means for transmitting in response to said addition of a member the information about the neighbor candidate information to the commander network device from each member which just joined the cluster (Processing Unit and Port per Fig 3)

Regarding claim 107, means for presenting to a user list of the candidate network devices qualified to join the cluster prior to said adding (Each bridge has a forwarding table or means per col. 5 line 1 to col. 9 line 62)

Referring to claim 121. A computer readable medium which stores instructs which are executable on computer in which said instructions (Program memory and Working Memory are capable of storing instructions which can be executed on Processing Unit per Fig 3) performing the method for

automatically detecting candidate devices by receiving discovery packets from the candidate devices, the candidate devices periodically transmitting the discovery packets (All bridges automatically receive and detect BPDU or discovery packets from all of the bridges in the network or candidates. The bridges inherently periodically transmit the BPDU or discovery packets periodically per col. 5 line 1 to col. 9 line 62)

determining whether any of the candidate devices is qualified to join the cluster by applying qualification rules to the discovery packet received from the candidate devices (BPDU are evaluated from the bridges or candidate devices in order to determine which bridges will be designated as daughter bridge and which bridge will be designated as a root or designated bridge. All bridges which do not have the lowest path cost are qualified to be daughter bridges per col. 5 line 1 to col. 9 line 62)

adding one or more of the candidate devices to the cluster to be managed and configured via a commander network device of the cluster (Each of the bridges is added to the spanning tree network or cluster because they are binded or configured or managed per col. 5 line 1 to col. 9 line 62)

Referring to claim 125. A computer readable medium which stores instructs which are executable on computer in which said instructions (Program memory and Working Memory are capable of storing instructions which can be executed on Processing Unit per Fig 3) performing the method for

periodically transmitting discovery packets from the candidate network devices the discover packets including information indicating that the candidate device is capable of belonging to a cluster (The bridges inherently periodically transmit BPDU or discovery packets including their configuration information of capable of belonging to the spanning tree per col. 5 line 1 to col. 9 line 62)

Art Unit: 2619

maintaining at each candidate network device a neighbor database containing information about other candidate network devices directly connected to the candidate network device (Each bridge maintains a forwarding table per col. 5 line 1 to col. 9 line 62)

transmitting the information in the neighbor device data base to the commander network device when the candidate network device is added to the cluster (As soon as neighboring bridge has been added the BPDU information can be forwarded to the root per col. 5 line 1 to col. 9 line 62)

In addition Backes teaches:

Regarding claim 126, wherein said method further comprises:

Receiving at each of the candidate network devices the discovery packets from its neighbor candidate device and updating at each of the candidate network devices the neighbor device database in response to the received discovery packets (Forwarding Data Base per Fig 3 is updated)

Allowable Subject Matter

4. Claims 66-77, 108-120, & 122-124 are allowed. The following is an Examiner's statement of reasons for allowance:

Claims 66-77 & 108-117 are considered allowable since when reading the claims in light of the specification, no single prior art reference or prior art references in combination disclose or suggest the combination of limitations specified in the independent claims including:

“presenting to a user a list of the first candidate network devices qualified to join the cluster” as specified in claim 66.

“means for presenting a list of the first candidate network device qualified to join the cluster as specified in claim 108.

“means for transmitting the information in the neighbor device data base to the commander network device when the candidate network device is added to the cluster” as specified in claim 118.

“presenting to a user a list of the first candidate network devices qualified to join the cluster” as specified in claim 122.

Response to Amendment

5. Applicant's arguments with respect to claim 1, 58-126 have been considered but are moot in view of the new ground(s) of rejection. Refer to above rejection for details.

Additionally Applicant's arguments filed 8/15/07 relative to the 112/2nd rejection have been fully considered but they are not persuasive. The examiner respectfully disagrees with the

Art Unit: 2619

applicant argument that the 112/2nd rejection associated with claims 65 & 107 has been traversed. The examiner asserts that the claim limitation of "presenting to a user a list of candidate network devices qualified to join the cluster prior to said adding" is improper idiomatic English. The claim language is supposed to stand on its own merits and not require an interpretation of one of ordinary skill in the art at the time of the invention. The applicant has argued that one of ordinary skill in the art at the time of the invention would understand the limitation "presenting to a user a list of candidate network devices qualified to join the cluster prior to said adding" but has not provided any prior art references or factual information providing what one of ordinary skill at the time of the invention was known outside of applicant's specification which was part of applicant's invention and part of the prior art. The applicant's argument is not persuasive because evidence or facts were provided to support applicant's argument.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075.

The examiner can normally be reached on M-F (8:00-4:30).

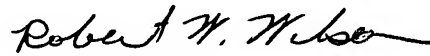
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571/272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/687,215

Page 12

Art Unit: 2619

A handwritten signature in cursive script, reading "Robert W. Wilson".

Robert W Wilson

Examiner

Art Unit 2619

RWW

10/17/07